INVITED COMMENTARY

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Darwood and colleagues, in "Twenty year review of abdominal aortic aneurysm (AAA) screening in men in the country of Gloucestershire, UK," follow a large series of men (52,960) longitudinally using ultrasound to make some important observations about AAA screening programs. The present study confirms the results of many of the previously reported large AAA screening programs; namely, that screening programs are associated with a reduction in the number and proportion of ruptured AAAs (Fig 3 in their text). Similarly, the present study documents that patients in a screening program, when they eventually undergo AAA repair, have lower mortality rates (3.9% for screened vs 6.7% for non-screened; $P = .0047$).

However, there are some important differences in the design and results of the present study compared with previous trials that bear mention. For example, in the present study, patients with aortic diameters of 2.6 cm and greater were examined, as opposed to 2.9 cm and greater in previous studies. This small 3 mm difference led to important clinical observations. After 10 years of follow-up in the group of men with aortic diameters of 2.6 to 2.9 cm, 15% of men developed an AAA of >5.4 cm! Another 13 men presented with a ruptured AAA. Further, when the group of men with aortic diameters of 2.5 cm or less were examined, 0.19% (95 men) were found to have aortic diameters of >3.0 cm. Ultimately, a total of 80 men (0.16%) whose initial scans were considered "normal" had either had an aneurysm repair or died from a ruptured AAA. While these numbers are small in terms of the utility of rescreening, it does suggest that we cannot merely assure our patients that they are "not likely to get a significant AAA in their life." The authors suggest that extending surveillance to men with an initial aortic diameter of 2.6 to 2.9 cm may yield a significant number of large, life-threatening AAAs. Based on these data, I agree that re-ultrasounding the >65-year-old male makes sense. However, the duration between imaging needs to be determined.

Finally, perhaps the most important observation from the present study is that initial aortic diameters decreased over the 20-year interval of study from 21 mm to 17 mm. Importantly, this decline occurred across all aortic diameters, not just in the larger aortic diameters. This observation is especially important when contrasted with reports regarding operative and endovascular interventions for AAAs, which have, for the most part, reported increasing numbers. The authors are quick to point out that this observation is not likely a technical issue with the ultrasound screening. While this study was not intended to provide a cause and effect relationship, the authors conclude by suggesting that attempts at risk factor modification for coronary disease (eg, better blood pressure control, decreased smoking, and improved cholesterol management) may be positively impacting aortic diameter. As aortic diameter may end up being a weak risk factor for cardiac death, any serendipitous, beneficial effects of all the pharmacologic therapies (beta-blockers, ACE inhibitors, statins, etc) we prescribe for the elderly to prevent cardiac events on aortic diameter and possibly AAA incidence is most welcome, even if we don't understand why.